

**WE CLAIM AS OUR INVENTION:**

1. A method for determining distortions in an image comprising the steps of:  
arranging a subject in an imaging volume of an imaging system and obtaining  
an image of said subject in said imaging volume, with a first region of said  
imaging volume appearing undistorted in said image and a second region  
of said imaging volume appearing distorted in said image;  
prior to obtaining said image of said subject, obtaining an image, using said  
imaging system, of at least three markings having a known spatial  
position relative to each other, with a first and a second of said three  
markings being disposed in said first region and a third of said three  
markings being disposed in said second region;  
determining respective positions of said markings in said image of said  
markings;  
determining an ideal position of said third marking in said image of said  
markings from the known spatial position of said third marking relative to  
said first and second markings; and  
determining a positional difference of the image of the third marking in said  
image of said markings from said ideal position, and employing said  
positional difference as a criterion for distortion.

2. A method as claimed in claim 1 comprising generating an imaging scale  
from the distance of the first marking in said image of said marking from the distance  
of said second marking in said image of said markings.

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3. A method as claimed in claim 1 comprising arranging said three markings in a straight row behind one another.

4. A method as claimed in claim 1 comprising determining said ideal positioning of said third marking by a straight line that proceeds through the image of said first marking and the image of said second marking in said image of said markings, and by a known distance of said third marking from said first marking and said second marking.

5. A method as claimed in claim 1 comprising arranging said three markings in a single plane.

6. A method as claimed in claim 5 comprising disposing the three markings at respective corners of a right triangle.

7. A method as claimed in claim 6 comprising determining said positional difference by triangulation.

8. A method as claimed in claim 1 wherein said image of said markings has a middle region, and obtaining said image of said markings so that said first region is disposed in said middle region of said image of said markings.

10. A method as claimed in claim 1 comprising generating said image of said subject and said image of said markings by nuclear magnetic resonance imaging.

11. A calibration object for use in identifying distortion in an image of a subject in an examination volume, wherein said imaging volume has a first region that appears undistorted in said image and a second region which appears distorted in said image, comprising:

a holder having three markings, a first and second of said three markings being disposed in said holder so as to be located in said first region of said imaging volume, and a third of said markings being disposed in said holder so as to be located in said second region.

12. A calibration object as claimed in claim 11 wherein said holder has three cylindrical volumes therein, and wherein said three markings are formed by an imageable substance contained in said three cylindrical volumes.

13. A calibration object as claimed in claim 12 wherein said cylindrical volumes are identical.

14. A calibration object as claimed in claim 12 wherein said cylindrical volumes are disposed in a plane and are aligned perpendicularly to said plane.

15. A calibration object as claimed in claim 12 wherein said third marking comprises two cylindrical auxiliary volumes oriented in a crossed arrangement.

16. A calibration object as claimed in claim 15 wherein said third marking additionally comprises a further cylindrical volume proceeding away from an intersection of said two cylindrical auxiliary volumes.